PUBLIC HEALTH DIVISION, DEFENSE HEALTH AGENCY
Armed Forces Health Surveillance Branch (AFHSB)

Detecting and Reporting DoD Cases of Acute Zika Virus Disease
Guidance as of 5 FEB 2016

1. **Case Diagnosis**:

- According to CDC, preliminary diagnosis of acute Zika virus disease is based on the patient's clinical features, places and dates of travel, and activities. Consider Zika virus (ZIKV) infection in patients with acute onset of fever with maculopapular rash, arthralgia, or conjunctivitis, especially in travelers who have returned from areas with virus transmission within two weeks of symptom onset. Other commonly reported symptoms include myalgia, headache, retro-orbital pain, and vomiting. There is limited epidemiologic data to support ZIKV transmission through sexual contact. Health care providers should ask all patients presenting with a febrile illness about recent travel and recent travel by their sexual partners.
- Clinical illness is usually mild with symptoms lasting for several days to a week. Severe disease requiring hospitalization is uncommon and fatalities, if they occur, are rare. Only about one in five people infected with ZIKV become symptomatic. There is no vaccine or specific treatment.
- ZIKV infections may be associated with congenital neurological malformations and neurologic syndromes. CDC has issued guidance for advising and caring for pregnant women, and for evaluating and testing infants with possible congenital ZIKV infection. The Brazil Ministry of Health and CDC are investigating the possible causal relationship between ZIKV infection and neurological birth defects, particularly microcephaly. A significant increase in reported microcephaly cases followed the discovery of ZIKV circulation in Brazil in May 2015. Guillain-Barre Syndrome has also been reported in association with ZIKV infection.
- Consider dengue and chikungunya infection, including co-infections. Dengue, chikungunya, and ZIKV are all transmitted by the same mosquitoes (*Aedes* species) and can have similar clinical features. These viruses often circulate in the same area and can cause occasional co-infections in the same patient.
- Differential diagnoses should also include malaria, leptospirosis, rickettsia, group A streptococcus, rubella, measles, parvovirus, enterovirus, adenovirus, influenza, other flaviviruses, and alphavirus infections (e.g. Mayaro, Ross River, Barmah Forest, O'nyong-nyong, and Sindbis viruses).

2. **Clinical Diagnostic Testing:**

- Diagnosis of ZIKV infection based on clinical presentation alone is not reliable; confirmation requires appropriate laboratory testing.
- There is no commercially available test for ZIKV diagnosis. ZIKV testing is available at the CDC Arbovirus Diagnostic Laboratory and several state health departments including Hawaii and Florida; at this time no DoD laboratories are designated as ZIKV testing facilities by CDC. MTF clinical laboratories should contact their state or local health department to facilitate testing. Laboratories should conduct contingency planning for shipping clinical specimens with their state or local health departments to ensure a smooth process.
- DoD labs are expected to receive the CDC reagents (both RT-PCR and IgM) once they have cleared the FDA Emergency Use Authorization (EUA) process. CDC is also working to expand laboratory diagnostic testing in states using existing protocols. Once the EUA is approved, additional guidance will be issued detailing DoD lab capability.
- Consult the CDC's Zika Diagnostic Testing webpage and CDC's Updated diagnostic testing for Zika, chikungunya, and dengue viruses in U.S. Public Health Laboratories for more information.
- RT-PCR can be performed on serum specimens collected within the first week after illness onset.

- Immunoglobulin M and neutralizing antibody testing should be performed on specimens collected ≥4 days after onset of illness. Both acute and convalescent sera should be submitted.
    - ZIKV IgM antibody assays can be positive due to recent infection by related flaviviruses (e.g., dengue and yellow fever viruses).
    - Virus-specific neutralization testing provides added specificity, but might not discriminate between cross-reacting antibodies in people who have been previously infected with or vaccinated against a related flavivirus.
    - Plaque reduction neutralization testing can be performed to measure virus-specific neutralizing antibodies and discriminate between cross-reacting antibodies in primary flavivirus infections.
- Consult CDC recommendations on testing asymptomatic pregnant woman and infants with microcephaly or intracranial calcifications born to women who traveled to or resided in an area with ZIKV transmission while pregnant or infants born to mothers with positive or inconclusive test results for ZIKV infection.

3. Reporting:

- Zika virus disease is not currently a reportable medical event (RME) in DoD, but it is a disease of concern. Laboratory confirmed cases should be reported in DRSi as "Any Other Unusual Condition Not Listed," with "Zika" entered in the comment field along with a pertinent travel history and, in the absence of a pertinent travel history, recent travel by their sexual partners. For female patients, pregnancy status should be recorded.
- As of 29 JAN, CDC has added Zika virus disease to the National Notifiable Diseases Surveillance System (NNDSS) with the event code 11726.
- Report Zika virus disease to the state and local health departments per local civilian reporting requirements to improve cross-communication and mitigate the risk of local transmission.
- Direct questions on reporting to the appropriate Service-specific public health POCs:
    - Navy - Contact your relevant Navy Environmental and Preventive Medicine Unit (NEPMU) or the DRSi helpdesk:
        - Navy Environmental and Preventive Medicine Unit Two
          Naval Station Norfolk, VA
          COMM: (757) 953-6600; DSN: (312) 377-6600
        - Navy Environmental and Preventive Medicine Unit Five
          Naval Base San Diego, CA
          COMM: (619) 556-7070; DSN: (312) 526-7070
        - Navy Environmental and Preventive Medicine Unit Six
          Joint Base Pearl Harbor-Hickam, HI
          COMM: (808) 471-0237; DSN: (315) 471-0237
        - Navy Environmental and Preventive Medicine Unit Seven
          Naval Station, Rota, Spain
          COMM (international): 011-34-956-82-2230 (local: 727-2230); DSN: 94-314-727-2230
        - Navy and Marine Corps Public Health Center DRSi Helpdesk
          usn.hampton-roads.navmcpubhlthcenpors.list.nmcphc-ndrs@mail.mil
          COMM: (757) 953-0700; DSN: (312) 377-0700
    - U.S. Air Force School of Aerospace Medicine (USAFSAM)
      Epidemiology Consult Service Division

usafsam.phrepiservic@us.af.mil
COMM: 937-938-3207; DSN: 798-3207

- Army Public Health Center (APHC)
  Disease Epidemiology Program
  usarmy.apg.medcom-phc.mbx.disease-epidemiologyprogram13@mail.mil
  COMM: 410-417-2377; DSN: 867-2377

4. Surveillance:

- Use the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) or Medical Situational Awareness in Theater (MSAT) to monitor febrile illnesses and rash in the population for any increases. An ESSENCE account can be created here. Create an ESSENCE or MSAT syndrome group with the appropriate ICD-10 code, A92.8 (Other specified mosquito-borne viral fevers), and investigate upticks for potential Zika risk factors.
- Since ESSENCE captures only outpatient data, evaluate hospitalized individuals with acute febrile disease and travel to endemic areas. For theater medical data, MSAT can be used to monitor both outpatient and inpatient populations.

5. Mosquito Surveillance, Entomology, and Environmental Lab Support Points of Contact:

- The Armed Forces Pest Management Board (AFPMB) develops guidance and policy and coordinates pest management activities throughout the DoD. It maintains professional and technical liaison in the area of entomology and integrated pest management with appropriate DoD components, Federal agencies, and others. AFPMB approves all pest management products for use in the DoD.
  - [redacted]
- The Army Medical Command has four regional commands, all of which have Entomological Sciences Divisions that perform mosquito-borne disease surveillance. In total, six Army public health laboratories have arboviral testing capability that will include Zika virus testing.
  - [redacted]
- The U.S. Air Force School of Aerospace Medicine identifies and tests mosquitoes worldwide for many arboviruses, including Zika and dengue. In addition, USAFSAM provides expertise for operational disease vector surveillance, control, and training.
  - [redacted]

- Navy and Marine Corps Public Health Center has the above four regional NEPMUs which provide operational services in entomology. Additionally, the Navy Entomology Center of Excellence provides expertise for operational disease vector surveillance, control, and training.
    - [redacted]

6. Other Resources:

- Publicly-shareable Surveillance Summaries for Zika virus disease are available on the AFHSB website. FOUO versions are available to USG e-mail addresses via distribution list.
- Zika virus disease and its possible complications are emerging threats, and clinical, laboratory and, public health guidance is evolving. Health professionals should monitor the CDC's health care provider website for the most up-to-date information. CDC also has a general interest Zika page.
- The Pan-American Health Organization Zika website has regional outbreak information.

7. Risk communication and preparation considerations:

- CDC has issued Alert, Level 2 – Practice Enhanced Precautions travel notices for areas with ongoing ZIKV transmission. Travelers should consult these before visiting tropical or subtropical areas of the Americas, Africa, and Asia.
- Beneficiaries living in or traveling to higher risk areas should practice prevention methods for ZIKV, which is transmitted by *Aedes* mosquitoes. See CDC prevention guidelines.
- Pregnant beneficiaries or those planning to become pregnant while living or traveling in an area of ongoing transmission should be made aware of the possible increased risk of congenital neurologic malformations in the newborns of women exposed to the virus during pregnancy.
- Spread of ZIKV through blood transfusion and sexual contact have been reported. Reports suggest ZIKV may be detectable in semen for several weeks post-infection. Monitor CDC for additional guidance.
- There is no antiviral treatment or vaccine currently available for ZIKV infection. Prevention relies on effective mosquito control and avoidance of vectors. Use insect repellent containing EPA-registered repellents, such as DEET or picaridin; wear long sleeves and long pants treated with permethrin for added protection; and limit outdoor activities in order to prevent mosquito bites, decreasing the risk of ZIKV and other mosquito-borne infections.
- DoD health care providers in higher risk areas and areas that receive travelers from ZIKV-endemic areas should know the clinical manifestations of Zika (including the threat to unborn children), how to obtain confirmatory laboratory testing, and how to manage the disease.
- Installations should be prepared to carry out necessary mosquito surveillance programs and to execute appropriate mosquito control operations to reduce the size of vector populations and prevent spread of ZIKV.

8. AFHSB POCs:

- Integrated Biosurveillance (dha.ncr.health-surv.list.afhs-ib-alert-response@mail.mil)
    - [redacted]
- Global Emerging Infections Surveillance & Response (dha.ncr.health-surv.mbx.afhs-promis@mail.mil)
    - [redacted]
- Epidemiology and Analysis (dha.ncr.health-surv.mbx.afhs-ea-reports@mail.mil)
    - [redacted]